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**Station Commander Job Analysis
and Preliminary Test Validation Results**

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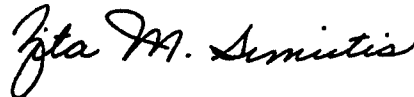
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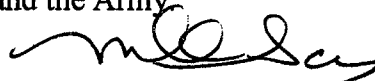
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Foreword

The U.S. Army Research Institute for the Behavioral and Social Sciences, and the U.S. Army Recruiting Command (USAREC) developed a Recruitment Research Campaign Plan in the late 1990s in response to a recruiting Functional Area Assessment presented to the Chief of Staff of the Army. One of the five major themes of this plan is to improve recruiting by enhancing the effectiveness of station commanders. As the immediate supervisor and leader of the recruiting sales force, the station commander plays a critical role in the effectiveness of the recruiting station. Existing research provides very little information about the important personal characteristics of effective station commanders or about their job performance requirements. In addition, methods to develop group or station-level measures of performance have not been investigated. This research was conducted to fill these research gaps and to complete a preliminary validation of measures to predict station commander performance. The work was carried out under a contract with Personnel Decisions Research Institutes, Inc.

This report describes the knowledges, skills, abilities, and other characteristics (KSAOs) likely to be related to station commander performance, the important performance requirements of the Army station commander job, and identifies measures that may predict these performance requirements. Next, the report documents how measures of station commander performance, both at the individual and station level, were developed and combined into a composite criterion measure. Finally, the report describes preliminary validation research used to identify relationships among these KSAOs and station commander performance measures.

Findings from this effort have been briefed to the USAREC Command Psychologist, and the Commandant, USAREC Recruiting and Retention School. This research serves as a foundation for future work to develop measures to predict recruiting station commander performance. The description of methods developed to measure performance at a group level (i.e., station) and the translation of objective group level data into an individual performance criterion may serve multiple uses for USAREC and the Army.



MICHELLE SAMS
Technical Director

Executive Summary

Research Requirements

The U.S. Army Research Institute for the Behavioral and Social Sciences (ARI) initiated research to examine the recruiting station commander job in support of the Secretary of the Army recruiting initiative. The research objectives were to develop a screening and assessment concept to identify personal characteristics required for successful station commander performance, to develop measures of station commander job performance, and to conduct a preliminary validation. ARI contracted with Personnel Decisions Research Institutes, Inc. (PDRI) to assist with this project.

PDRI completed four tasks to accomplish the research objectives: (1) conduct a job analysis of the station commander job and develop a set of behaviorally-anchored rating scales for measuring station commander performance; (2) develop a comprehensive screening and assessment concept for station commanders that identified the important KSAs required for successful performance; (3) identify measures of these KSAs; and (4) conduct a preliminary predictive validation effort to link measures of these individual characteristics to station commander performance.

Results

The purpose of the first task was to identify the critical behaviors performed by station commanders, and the relevant context or situational factors (e.g., stress) that impact their job performance. PDRI conducted a critical incidents job analysis and developed a set of behaviorally-anchored rating scales for measuring the important dimensions of station commander performance. In addition, PDRI developed a second criterion measure, the station mission achievement index. This index is the percent of the recruiting station's mission that the station achieves over a fixed period of time.

As part of the second and third tasks, PDRI reviewed the literature on supervisory and managerial performance, sales manager performance, and predictors of success in these contexts. This review provided insight into the characteristics that may be important for station commander performance, as well as methods that might be used to measure these characteristics.

As part of the third and fourth tasks, PDRI identified existing Army and off-the-shelf measures of potential predictors and conducted a preliminary predictive validation. Five predictor measures were evaluated, the Assessment of Individual Motivation, the Biographical Information Questionnaire, the Bar-on Emotional Quotient Inventory (EQ-I), the NEO Personality Inventory, and the COPE.

Predictor data were available for about 125 station commanders that had participated in a recruiter concurrent validation effort in 2001. These station commanders had been promoted to station commanders since 2001. Scores on the five predictors listed above were correlated with two criteria, on-line supervisor performance ratings and a station mission achievement index.

Several statistically significant correlations were found between the predictor measures and the performance criterion measures, but these relationships were generally weak. Correlations between the predictors and the supervisory performance ratings tended to be higher than for the station production index. This is likely because although the production measure provides a good “bottom-line” productivity index, there are probably factors outside the control of the station commander that contribute to this index.

The low to moderate correlations with performance may also be a result of the roughly three-year time delay between predictor testing and performance criterion measurement. This is a common finding. For example, in ARI’s Project A, correlations between temperament predictors gathered shortly after entering the Army and supervisory performance assessed approximately three years later were at about this level (Campbell & Knapp, 2001).

Another reason for the relatively low predictive validities may be the small and unrepresentative sample of station commanders. We had very little power to detect significant correlations. Finally, having a single set of supervisory ratings for each station commander limits the reliability of the ratings criterion measure, in turn restricting the magnitude of the validities. Of course, we could correct correlations for criterion unreliability, but unfortunately, the 1-rater reliability is not known.

Use of Findings

The station commander behavior-based rating scales may be used by USAREC for self-development or coaching purposes. USAREC may also be able to use the station mission achievement index to measure station performance and translate their objective, group level data into an individual level performance criterion. These findings also provide a preliminary look at several potential predictors of recruiting station commander performance.

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Introduction

In March of 1999 a recruiting functional area assessment (FAA) was presented to the Chief of Staff of the Army. At the FAA, the need to resurrect recruiting research was introduced in light of increasing challenges facing the U.S. Army Recruiting Command (USAREC) in achieving its recruiting goals. To that end, the U.S. Army Research Institute for the Behavioral and Social Sciences (ARI) reviewed its past recruiting research and the work conducted in other military settings, both nationally and internationally, to summarize and integrate what has already been accomplished. To provide a framework to prioritize and integrate future recruiting research, ARI, working with USAREC, developed a Recruitment Research Campaign Plan. The model is built around five major research thrusts to enhance the effectiveness of the recruitment process and provide products to help recruiters become more productive.

One of the major research areas in this model, the Recruiter Sales Force thrust, focuses on the importance of station commanders to recruiter success. As the immediate supervisor and leader of the recruiting sales force, the station commander plays a critical role in the effectiveness of recruiting efforts in the recruiting station. There are approximately 1650 station commanders in USAREC. Station commanders are selected from among the pool of available recruiters in Military Occupational Specialty (MOS) 79R (Recruiter Noncommissioned Officer), based primarily on their physical location and past performance as field recruiters. A working knowledge of recruiting operations is clearly required, but station commanders' primary responsibility is one of leadership; to mentor, support, resource, and guide field recruiters at the recruiting station. However, there are few solid indicators of candidates' leadership skills available for use by screening officials when evaluating candidates for a leadership role in recruiting.

The focus of this project was to develop a comprehensive screening and assessment concept to identify the leadership knowledges, skills, and abilities (KSAs) required for successful station commander performance. In addition, tools measuring these KSAs were validated against measures of station commander performance. Finally, recommendations are made for future research and implementation of these measures for use in station commander screening and development.

To accomplish these objectives, Personnel Decisions Research Institutes, Inc. (PDRI) completed five tasks as follows: (1) conducted a job analysis of the station commander position and developed a set of behaviorally-anchored rating scales for measuring station commander performance; (2) developed a comprehensive screening and assessment concept for station commanders that identifies the

important KSAs required for successful performance; (3) identified measures of these KSAs; and (4) conducted a preliminary predictive validation effort to link measures of these individual characteristics to station commander performance. Each of the four tasks is described in the following chapters.

Supervisory Performance Requirements and Predictors of Success: A Literature Review

Research examining the nature of job performance has increased in popularity over the past 10 or so years. Although the majority of work has addressed performance in the aggregate across occupational groups, research involving specific employment classes has also been conducted. Supervisory and managerial performance are areas in particular that have been frequently addressed in the performance literature. In the last few decades, numerous efforts have proceeded to investigate, especially, the nature of the managerial performance domain, as well as the types of behaviors associated with managerial success. The managerial performance and selection literature seems most relevant to the target job of station commander in the current project.

A good portion of this research on managers has focused on developing a comprehensive managerial performance taxonomy, that is, to construct a list of core performance dimensions that reflect the types of tasks and behaviors performed by managers across different organizations. This section provides an overview of these findings, and discusses the ways in which these performance dimensions are used in managerial selection. Research specifically relevant to the job of sales manager is also discussed, with emphasis placed on the styles of management associated with success in the sales context. This research is particularly relevant for the station commander job.

Taxonomies of Managerial Performance

As previously mentioned, numerous efforts have been made to develop a behavioral framework for managerial performance. Methods used to capture managerial behaviors have ranged from questionnaires and observation to the use of diaries and critical incidents. Hemphill (1959), for example, identified 10 managerial performance dimensions (e.g., supervision of work, internal business control, long-range planning) by factor analyzing responses on the Executive Position Questionnaire, essentially a managerial task list. In addition, Mahoney, Sorenson, Jerdee, and Nash (1963) and Mahoney, Jerdee, and Carroll (1965) used responses from managers' diaries to determine the amount of time spent on eight different functions.

One relatively recent taxonomy developed by Borman and Brush (1993) helped to integrate previous research in this area by combining the results of 26 empirical studies investigating the behaviors of managers. Specifically, this research combined the performance-related managerial dimensions provided by previous

efforts to develop a system of managerial performance requirements. Their taxonomy consisted of 18 mega-dimensions that summarized the content of 187 individual performance dimensions. Each mega-dimension is subsumed under one of four major categories: (1) interpersonal dealings and communication; (2) leadership and supervision; (3) technical activities and the “mechanics of management;” and (4) useful personal behaviors and skills. These categories and their respective mega-dimensions are briefly discussed below.

The quality of a manager’s interpersonal dealings and communication with other members of the organization and those outside it is one major factor that can affect his or her success. Borman and Brush (1993) include four requirements within this category that summarize these behaviors. The first of these involves keeping subordinates, superiors, and others in the organization accurately informed by communicating effectively both orally and in written form. The second involves maintaining a good organizational image to customers and others outside the organization, and effectively dealing with customer/client problems. The third mega-dimension deals with maintaining smooth working relationships with other people in the organization; that is, showing concern for subordinates’ needs, backing up subordinates when appropriate, and maintaining a work unit that functions effectively and with minimum conflict. Finally, the fourth mega-dimension involves the ability to sell one’s own good ideas inside and outside the organization, and to effectively influence others based on the power associated with the position of manager. Each of these mega-dimensions speaks directly to a unique aspect of effective interpersonal dealings with others, and makes clear the important role that these types of behaviors play in managerial positions.

Leadership and supervision of employees is another important component of managerial performance. Specifically, Borman and Brush describe three major mega-dimensions that fall under this category. The ability to guide, direct, and motivate subordinates while also providing feedback is the first included under leadership and supervision. That is, effective managers help subordinates set goals, provide them with constructive criticism and encouragement, and carefully monitor subordinate performance. The second mega-dimension involves the training, coaching, and development of subordinates. An effective manager helps identify training needs for subordinates, and assists them in improving their job skills through coaching and by helping to provide training opportunities. Finally, coordinating subordinates and other resources to effectively accomplish the job is also viewed as a key performance requirement. This includes properly utilizing personnel, effectively managing the use of resources, and balancing the interests of subordinates within the context of organizational needs.

Technical activities and the “mechanics of management” is the broadest category in Borman and Brush’s (1993) taxonomy, and includes eight mega-dimensions. The first of these is planning and organizing. This aspect of management involves formulating short-term and long-term objectives, forecasting potential problems, developing strategies to overcome potential problems, and allocating resources effectively to meet organizational goals and objectives. The second mega-

dimension is technical proficiency. That is, effective managers are up to date on technical knowledge in their field, are able to use this knowledge effectively on the job, and can provide technical advice to others in the organization. Administration and paperwork, the third mega-dimension, deals with the effective handling of administrative activities that are important for the day-to-day functioning of the organization.

The fourth mega-dimension, decision making/problem solving, encompasses making sound and timely decisions that take into account all relevant information. This mega-dimension is also related to developing effective solutions to organizational problems. The fifth mega-dimension, staffing, involves recruiting, interviewing, selecting, transferring, and promoting members of the organization to maintain and enhance the current workforce. Monitoring and controlling resources, the sixth mega-dimension, includes aspects of budget control, that is, controlling costs and resources as well as directing the allocation of funds. The seventh mega-dimension, delegating, is more concerned with the allocation of personnel. More specifically, it involves assigning subordinates duties and tasks that are in line with subordinates' interests, and which foster their own personal growth. Finally, the last mega-dimension, collecting and interpreting data, deals with knowing how to properly seek out and interpret relevant information as a means to making correct inferences and decisions based on that information.

The final category in Borman and Brush's (1993) taxonomy is useful personal behaviors and skills. Included in this category are the mega-dimensions of persisting to reach goals, handling crisis and stress, and organizational commitment. Thus, effective managers put forth extra effort to accomplish their own objectives, and they respond effectively to unexpected situations and address conflict appropriately. In addition, they perform in compliance with organizational policies and procedures, and support "reasonable" policies put forth by those higher in the organization.

In general, Borman and Brush's (1993) taxonomy matches well with other previous taxonomies of managerial performance (e.g., Hemphill, 1959; Flanagan, 1951; Williams, 1956; Tornow & Pinto, 1976), in that dimensions from the other taxonomies are all included somewhere in the Borman and Brush system. Also, unlike some previous studies that focused on a particular managerial job, these results were derived from data collected from many different organizations and a variety of management jobs.

More recent efforts have expanded on Borman and Brush and others, especially in terms of specificity. Most notable is a "hyperdimensional" taxonomy developed by Tett, Guterman, Bleiser, and Murphy (2000) which includes 53 managerial competencies contained within 9 dimensions: (1) Traditional Functions; (2) Task Orientation; (3) Person Orientation; (4) Dependability; (5) Open Mindedness; (6) Emotional Control; (7) Communication; (8) Developing Self and Others; and (9) Occupational Acumen and Concerns. In general, findings support the content validity of the model, though the need for continual development is also

acknowledged. Importantly, however, the system provides a further breakdown of what specific types of behaviors are important for effective managers to perform, and makes explicit certain competencies (e.g., cultural appreciation, customer focus) not considered in earlier taxonomies that may be important for effective managerial performance.

Predictors of Managerial Performance

A variety of different methods are used in managerial selection to predict success in the areas described above. Cognitive ability tests, for example, provide one method that has shown strong validity for predicting managerial performance. In a review of studies conducted between 1919 and 1972, Ghiselli (1966; 1973) found that tests of general intellectual ability and general perceptual ability were the best predictors of success in management. More specifically, these correlations were .53 and .43 respectively when statistically corrected for criterion unreliability and range restriction (Hunter & Hunter, 1984).

A number of meta-analytic studies have also supported this relationship. For example, in a meta-analysis conducted for the U.S. Department of Labor that included over 515 civilian jobs, Hunter and Hunter (1980;1984) found that the validity of general mental ability for predicting job performance was .58 for professional-managerial jobs. Other meta-analyses (e.g., Pearlman, Schmidt, & Hunter, 1980; Schmidt & Hunter, 1998) show roughly the same levels of validity. Thus, based on results that show general cognitive ability to have the highest validity and lowest application cost in comparison to other selection methods (e.g., assessment centers, personality tests), it is clear why many organizations use cognitive ability to forecast future managerial performance.

A second category of predictors used in managerial selection is personality inventories. Although early reviews of the relationship between personality and managerial success were not encouraging (e.g. Guion & Gottier, 1965), later reviews based on the Five Factor Model of personality (FFM) (i.e., Extraversion, Conscientiousness, Openness to Experience, Emotional Stability, Agreeableness) have provided more promising results. For example, Barrick and Mount's (1991) meta-analysis revealed that among the five factors, Extraversion (.18) and Conscientiousness (.22) were the best predictors of managerial success. Results of a more recent meta-analysis by Barrick, Mount, and Judge (2001) supported these findings. Specifically, they found that both Conscientiousness and Extraversion significantly predicted overall managerial success (.25 and .21). In addition, both factors were valid predictors of teamwork (.27 and .16), a relevant aspect of most managerial jobs. Another recent meta-analysis found several personality factors related to leadership effectiveness (Judge, Bono, Ilies, & Gerhardt, 2002). In the military/government studies, Neuroticism, Extraversion, and Conscientiousness were all related to leadership effectiveness ($\rho = -.23, .16, \text{ and } .17$, respectively, corrected for interrater reliability).

These findings make sense at a conceptual level, as well, due to their connection with certain dimensions in Borman and Brush's (1993) taxonomy. For example, some of the major sub-facets of Conscientiousness are planning, organization, and achievement orientation which tie directly to the planning and organizing mega-dimension included under technical activities and the "mechanics of management." In addition, Extraversion encompasses qualities such as sociability and assertiveness, which directly relate to the interpersonal dealings and communications facet included in their framework. Thus, recent research based on the FFM reveals the importance of assessing certain personality dimensions for managerial selection. More research is needed, however, to determine the process by which personality affects job performance (e.g., through mediators such as a person's level of motivation) (Barrick et al., 2001).

Another popular method used in managerial selection is the assessment center. In an assessment center, applicants are administered a number of situational exercises (e.g., role play, in-basket exercise, leaderless group discussions) designed to measure skills relevant to managerial positions, skills such as leadership, decision-making, organizing and planning, and administration skills. Other evaluation approaches, such as cognitive ability tests and personality inventories, may also be included as part of this assessment method. For the situational exercises, multiple raters evaluate the behavior of assesseees using a standardized set of dimensions, and these ratings are then pooled to provide a relatively objective picture of the applicant's skills and abilities. In general, validity evidence for assessment centers is positive. For example, Schmitt, Gooding, Noe, and Kirsch (1984) reported an uncorrected average validity of .41 for assessment center ratings, and Hunter and Hunter (1984) reported an average validity of .43.

In addition, applicants tend to view assessment centers as having higher face validity when compared to cognitive ability tests (Macan, Avedon, Paese, & Smith, 1994), and research has shown lower adverse impact associated with this technique (e.g., Huck & Bray, 1976). However, problems with low construct validity (i.e., lower correlations between ratings on the same dimension for different exercises than between ratings of different dimensions for the same exercise) (Joyce, Thayer, & Pond, 1994) and criterion contamination (Klimoski & Brickner, 1987) have also been identified. These drawbacks combined with high developmental costs have served to somewhat offset the advantages associated with assessment centers.

One cost-effective alternative to the assessment center is the situational judgment test (SJT). This method presents applicants with written descriptions of situations representative of the target job, to which the respondent must usually select the most and least effective response from a list of 4-5 alternatives. Research suggests that SJTs exhibit adequate reliability and validity for use in selection (Borman, Hanson, Oppler, Pulakos, & White, 1993; Weekley & Jones, 1999), and can be

used to assess a number of managerial performance areas. As with assessment centers, some of these areas include planning and organization, supervisory judgment, interpersonal judgment, technical competence, and decision-making and problem solving skills.

Finally, biographical information (i.e., biodata) has also frequently been used in managerial selection. Based on the premise that the best predictor of future behavior is past behavior, biographical inventories require applicants to provide autobiographical information about their past behavior, attitudes, and opinions. In general, items that refer strictly to past behaviors and that are relatively objective and verifiable are referred to as "hard items." In contrast, "soft items" generally ask about the applicant's attitude or opinion on a particular topic. Two typical areas measured in a biographical inventory include academic experiences (e.g., How many extracurricular activities were you involved in while in high school?), and work experiences (e.g., How old were you when you accepted your first full-time job?), though items concerning family, hobbies, and other pursuits may also be included.

In general, validity evidence supports the use of biographical data in managerial selection. For example, in a review by Reilly and Chao (1982) that combined results across seven studies, biodata was shown to predict success in management with an average validity of .38. In addition, personality constructs can also be measured by biodata items, and previous research has shown that biodata items are less fakable than traditional self-report personality assessments (Kilcullen, White, Mumford, & Mack, 1995). In general, however, it is the historical nature of biodata items that distinguishes this method from other self-report measures such as personality questionnaires (Mael, 1991).

Sales Manager Performance

Though a large amount of research has addressed the general domain of managerial performance, less effort has been focused on identifying performance areas related to specific managerial jobs. Sales management, however, is one type of supervisory job that has received some attention in the performance literature. That is, some effort has been made to identify effective behaviors and styles of leadership that contribute positively to sales and performance. Transactional and transformational leadership, for example, are two concepts that have been addressed in the sales management literature. Briefly, a manager adopting a transactional leadership approach influences subordinates through a system of incentives or rewards, and typically does not intervene unless sales outcomes are below the target level. In contrast, transformational or "charismatic leaders" attempt to align the internal standards and goals of subordinates with those of the organization. Subordinates are encouraged to perform their job tasks because these efforts benefit the organization, not because they are linked to monetary or other types of rewards (Bass, 1985).

In general, although transactional leadership has proven adequate relative to employee performance and reactions from employees, transformational leadership has been associated with even more impressive results (Bass, 1985). Research conducted in the sales management context, however, has provided mixed findings. For example, in an effort that addressed affective and behavioral outcomes of sales representatives, transformational leadership was found to augment the effects of transactional leadership (i.e., add incremental variance) on only two of eleven outcome measures (i.e., commitment and role ambiguity). These results were supported by Russ, McNeiley, and Comer (1996), who also found disconfirming evidence for a positive effect of transformational leadership on sales manager performance above and beyond transactional leadership. Two possible explanations for these results are: (1) salespeople must be attentive to several groups, and, thus, the influence of one person (i.e., the sales manager) may not be strong enough in a sales context to engender the typical effects associated with transformational leadership; and (2) sales people usually work alone, and so are physically and even possibly emotionally distant from their manager (Dubinsky, Yammarino, Jolson, & Spangler, 1995).

However, recent results of research by MacKenzie, Podaskoff, and Rich (2001) that examined salesperson in-role and extra-role performance found that transformational leadership behavior enhanced the effects of transactional leadership across both types of criteria. Based on these mixed results, it is clear that more research is needed to accurately assess the effects of transactional and transformational leadership on sales outcomes, and whether organizations should select for these types of behaviors in sales managers.

A related issue discussed in the sales management literature is the dominant-warm style of management (Buzzotta & Lefton, 1982). This style of management is included in a model developed by Buzzotta and Lefton in the early 1960's which outlines four distinct management styles used in the sales context: dominant-warm, dominant-hostile, submissive-warm, and submissive-hostile.

In general, the dominant-warm style of management has received support as the most preferred by subordinate salespeople (Hite & Bellizi, 1986). In addition, the preference for this style has been supported in a number of research programs including the Ohio State Leadership Studies (Stoghill, 1948) and research conducted at the University of Michigan Survey Research Center (Likert, 1961). Specifically, managers adopting this management style frequently consult salespeople about their ideas, stimulate collaboration and interdependence among salespeople, develop salespeople to "control themselves", and make efforts to help salespeople realize their own potential (Buzzotta & Lefton, 1982). In addition to positive reactions from salespeople, Buzzotta and Lefton note that the dominant-warm style is associated with positive sales outcomes such as high sales volume, low cost of sales, and high morale on the part of salespeople. Thus, these results suggest that dominant-warm types of behaviors are not only relevant for those sales managers already employed, but may also be important in the selection of sales managers.

Summary

Overall, research in the area of managerial performance has provided significant insight into the type of behaviors needed for success. That is, behavioral research has now empirically shown that behaviors such as effective planning and organizing, guiding and developing subordinates, and responding effectively to stress are key components of successful management. In addition, a variety of methods are also available that can accurately identify managerial potential (e.g., cognitive ability tests, personality inventories, biodata, assessment centers, and situational judgment tests) either used by themselves or in combination.

Finally, research relevant to the sales management context has also provided evidence that the dominant-warm style of management as well as transactional and transformational leadership behaviors are important to outcomes such as salesperson performance and trust in the manager. In sum, much is known about what constitutes effective managerial performance and what methods are appropriate in selection. However, additional research is needed in this area to further discern the types of behaviors relevant to specific managerial jobs, including sales management jobs, as well as how these behaviors can be used in the selection and training of future sales managers.

Development of the Station Commander Rating Scales

The measurement of job performance plays a critical role in the development and validation of personnel selection instruments. Accurate and valid measures of performance are required before we can develop tools to predict job performance. In addition, performance measurement is essential to the evaluation of training programs and other organizational interventions.

As the immediate supervisor and leader of the recruiting sales force, the station commander plays a critical role in the effectiveness of recruiting efforts in the recruiting station. As mentioned, station commanders are selected from among the pool of available recruiters based primarily on their physical location and performance as field recruiters. A working knowledge of recruiting operations is clearly required, but a station commander's primary responsibility is one of leadership; to mentor, support, and guide the field recruiters at his or her station. However, currently few solid indicators of station commanders' performance are available to evaluate their success on the job. PDRI was asked to identify the important performance requirements of the Army station commander job and produce behavioral rating scales for evaluating station commander performance.

Research Approach

Over the last 25 years, PDRI has been involved in projects to develop behavioral rating scales for military recruiters in the Army, Navy, and Marine Corps (e.g., Borman, Hough, & Dunnette, 1976; Borman, Toquam, & Rosse, 1978; Borman, Rosse, & Rose, 1982; Borman, Russell, & Skilling, 1987). More recently, PDRI has updated this work for Army and Navy recruiters, and Navy recruiters in-charge (Borman, Horgen, Birkeland, Penney, Sutton, & Mills, 2001; Penney, Borman, Hedge, Abrahams, & Drenth, 2001). These projects provided guidance in designing a strategy to develop the Army station commander rating scales.

The purpose of this research was to develop a set of behaviorally-anchored rating scales to measure important dimensions of station commander job performance. The scales feature behavioral "anchors," providing a behavioral description of exactly how individuals at different levels of effectiveness perform on the job. This method has been shown to generate objective and reliable performance ratings (Penney et al, 2001b).

Thus, raters compare the observed performance of a station commander to behavioral benchmarks associated with the performance dimensions. More

specifically, within each performance dimension, raters consider the statements describing behaviors that reflect high, mid-range, and low performance which anchor these three effectiveness levels on the scales. Raters are asked to compare observed recruiter behavior with the behavioral statements on each dimension.

Development of the station commander rating scales followed a four-step process. First, 'critical incidents' methodology was used to gather examples of job performance. The critical incidents technique was originally developed by Flanagan (1954) and is a method for collecting specific, behaviorally-focused descriptions of work. In the first step, job experts were asked to generate critical incidents or examples of station commander behaviors.

In the second step of the development process, the performance examples were sorted into dimensions or performance categories by PDRI staff. Next, we created definitions and summary statements for each dimension. Finally, PDRI staff conducted two sets of rating scale retranslation workshops to assess the adequacy and clarity of the performance dimension structure and effectiveness levels of the associated behavioral statements. This information was used to edit and create the final rating scales. The station commander Performance Rating Scales appear in Appendix A.

Generating Performance Examples

As mentioned, the first step in the development process was to collect performance examples that would serve as the foundation of the behavior-based rating scales. The purpose of the workshops was to ask job experts to develop a large number of examples of station commander job behaviors.

Two, three-hour Performance Example Workshops were conducted at the Recruiting and Retention School (RRS) in Ft. Jackson, South Carolina with students in the First Sergeant Course. The students in the First Sergeant Course had recently been promoted from the station commander job and were highly knowledgeable about station commander job performance requirements. Thirty-three subject matter experts (SMEs) participated in the Performance Example Workshops. Their demographic characteristics are shown in Table 1.

Table 1. Demographics of Experts in the Performance Example Workshops

Years in Recruiting	N	Years in Army	N
Less than 2 Years	4	Less than 10 years	6
2 to less than 3 years	11	10 years to less than 13 years	12
3 to less than 4 years	10	13 years to less than 15 years	7
4 to less than 5 years	4	15 years to less than 17 years	3
5 years or more	4	17 years or more	5

Table 1. Demographics of Experts in the Performance Example Workshops (continued)

Race	N	Pay Grade	N
African-American/Black	11	E5	2
White/Caucasian	18	E6	15
Hispanic/Latino/Mexican-American	3	E7	16
Asian-American/Pacific Islander	1	Gender	N
		Male	29
		Female	4

Participants were asked to generate examples of ineffective, acceptable, and effective station commander job behavior. More specifically, they were asked to briefly describe a situation or the circumstances leading up to the performance example, what the station commander did, and the outcome or consequence of the behavior. As the SMEs generated their initial performance examples, PDRI staff conducting the workshop provided feedback to help them effectively produce useable performance examples. In addition, SMEs were asked to rate the effectiveness of the behavior they described. The Performance Example Workshop instructions can be found in Appendix B. The SMEs generated 151 examples of ineffective, mid-range, and effective station commander behaviors.

Construction of the Rating Scales

PDRI staff then content analyzed the 151 performance examples and categorized the examples into performance dimensions. In addition, information on station commander performance requirements was available from a research project conducted by PDRI to survey station-level business practices. This information was collected from a series of focus group interviews with 22 station commanders stationed across 5 USAREC Brigades (Kubisiak, McGonigle, Horgen, Borman, Kaufman, & Casper, 2003). We also examined the literature for examples of managerial performance taxonomies (e.g., Borman & Brush, 1993). Using this information to supplement the 151 performance examples, we developed five dimensions of station commander performance: Planning and Organizing Skills, Supervising Skills, Human Relations Skills, Recruiting Skills, and Training and Development Skills.

Next, we used the content of the performance examples to develop definitions for each dimension. Finally, behavioral summary statements were developed to anchor the rating scales at three levels - low, mid-range, and high levels of effectiveness. These behavioral statements were then submitted for retranslation, as described below.

Retranslation of the Performance Examples

The next step in developing the station commander rating scales was to confirm the structure and effectiveness levels of the behavioral summary statements. A Retranslation Workshop was conducted at the Recruiting and Retention School (RRS) with 26 students in the Recruiting Station Commander Course. These students were either acting station commanders or had several years of experience as recruiters. Their demographic and background information is presented in Table 2.

Table 2. Demographics of Experts in the First Retranslation Workshop			
Years in the Army	N	Months as a Station Commander	N
Less than 10 years	2	Less than 2 months	6
10 years to less than 13 years	7	2 months to less than 5 months	7
13 years to less than 16 years	12	5 months to less than 8 months	5
16 years to less than 20 years	4	8 months to less than 1 year	2
20 years or more	1	1 year or more	5
		not available	1
Years as a Recruiter	N	Race	N
2 to less than 3 years	9	African-American/Black	6
3 to less than 4 years	14	White/Caucasian	16
4 to less than 5 years	2	Hispanic/Latino/Mexican-American	3
5 years or more	1	Asian-American/Pacific Islander	1
Pay Grade	N	Gender	N
E5	1	Male	25
E6	7	Female	1
E7	18		

Workshop participants were asked to examine definitions of the 5 station commander performance dimensions, read the 15 performance statements, determine the dimension in which the statement best fits, and rate the effectiveness of the behavior described in the statement using a three-point scale (1 = ineffective, 2 = mid-range, 3 = effective). The workshop instructions appear in Appendix C.

As is typically done in retranslation, the mean and standard deviation of the effectiveness rating was computed for each behavioral statement. The percentage of SMEs sorting each statement into each dimension was also computed to gather information regarding the clarity of the performance dimension structure. Results are presented in Table 3.

Overall, results from the retranslation task indicated that the dimension definitions were reasonably clear and the behavioral summary statements reflected the intended level of effectiveness. Across 15 behavioral statements and 26 SMEs, 83% of the statements were sorted into the appropriate dimension and rated at the appropriate effectiveness level. There was sufficient disagreement about the dimension or effectiveness level to warrant some slight revisions to 8 of the behavioral summary statements.

Table 3. Results from the First Retranslation Workshop

Summary Statement: Intended Category and Effectiveness Level	Percent of SMEs placing it in correct dimension	Mean Effectiveness Rating	Standard Deviation of Effectiveness Rating
A1	100.0	1.31	.55
A2	88.5	2.35	.49
A3	100.0	2.92	.27
B1	84.6	1.04	.20
B2	84.0	2.20	.50
B3	76.9	2.92	.39
C1	84.6	1.08	.27
C2	92.3	2.42	.58
C3	80.8	2.96	.20
D1	84.6	1.08	.27
D2	92.3	2.62	.50
D3	100.0	2.96	.20
E1	83.3	1.31	.68
E2	84.6	2.42	.50
E3	76.9	2.81	.49

Note: A = Planning and Organizing Skills; B = Supervising Skills; C = Human Relations Skills; D = Recruiting Skills; E = Training and Development Skills

Second Retranslation of Performance Examples

After editing the dimension definitions and behavioral summary statements, we asked a group of six expert industrial/organizational psychologists to participate in another retranslation task. As in the previous retranslation workshop, participants were asked to sort the behavioral statements into the five performance dimensions and rate the effectiveness of the behavior on the same three-point scale.

Across 15 behavioral statements and six participants, in all but two cases (of 90) were statements sorted into the appropriate category and rated at the appropriate effectiveness level. Based on these findings, we concluded that the station commander rating scales present a clear dimension structure and include behavioral statements at three distinct levels of effectiveness for each dimension.

Summary

The purpose of this portion of our research was to identify critical aspects of station commander performance and develop a set of behaviorally-based rating scales to measure that performance. Subject matter experts were used throughout the development process to ensure that the important aspects of station commander performance were accurately captured and clearly conveyed in the rating scales.

These scales can be appropriately used by both supervisors and peers to rate the performance of station commanders whose performance they have observed. We recommend that raters be provided with rater training on how to use the rating scales, including training on how to avoid common rater errors (e.g., halo).

The final station commander rating scales can be used to gather station commander performance information for a variety of purposes. The scales can be implemented as criterion measures in validating station commander screening measures, as tools for evaluating station commander performance levels, or as indicators of training and development needs.

Development of the Station Mission Achievement Index

A measure of station production was developed as a second criterion to assess station commander performance. Conversations between PDRI project staff and various subject matter experts (SMEs) in USAREC, including current and former station commanders, regarding the best way to determine how well a station commander is performing, yielded a singular theme: mission achievement. The consensus was that the best way to determine how well a station commander is performing is to examine whether or not his or her station is achieving its mission.

A station's mission refers to the total number of contracts that must be written by the station each month. Beginning in FY01, USAREC implemented what it refers to as station missioning. Under station missioning, recruiting missions are assigned at the station level. Individual recruiters are no longer assigned an individual mission. However, recruiters are required to obtain at least one contract per month.

One of the goals of station missioning is to provide station commanders with greater discretion in determining how they allocate station resources to meet their mission. Station commanders are generally very knowledgeable about local market conditions, as well as the capabilities of the recruiters in their station. Therefore, station commanders are best equipped to respond to local recruiting market conditions by designing appropriate strategies for utilizing their resources, which in turn, should increase the productivity of their stations. Thus, mission achievement should be an appropriate measure of success as a station commander.

The mission achievement criterion is a measure of effectiveness or "the evaluation of the results of performance (Campbell, 1990)," whereas the ratings made on the behavior-based scales are a measure of performance. That is, the ratings were designed to capture the performance of station commanders as part of their job, such as training recruiters and organizing station activities. Because performance is under the control of the individual, behavior-based measures of performance are considered relatively unbiased measures of job performance. In contrast, effectiveness is determined by more than just behavior, or what a station commander does. While station commander performance will clearly have an impact on whether or not a station achieves its mission, other factors that are beyond the control of the station commander may also play a role. For example, the number of recruiters in the station, whether the station is located in an urban or rural area, the size of the available qualified youth population, local economic conditions, youth propensity to enlist, and the ratio of military to total civilian

population have all been shown to affect contract production (Borman, Rosse, & Toquam, 1982; Murray & MacDonald, 1999; Penney, Sutton, & Borman, 2001).

Although USAREC goes to great lengths to account for differences in demographic and economic conditions across stations when they establish and assign missions, they cannot account for other kinds of events that may occur within individual communities. For instance, the combat-related death of a local Soldier may have a negative impact on the ability of a station to meet its mission. Likewise, the heroic return of military personnel may have a positive impact on recruiting in the local community. Both events are outside of the control of station commanders and recruiters, but can have an impact on mission achievement. However, although the mission achievement criterion may be influenced by factors unrelated to station commander performance, it should also capture important elements of station commander performance, and thus be a useful measure.

Creating the Station Mission Achievement Index

For the current project, mission achievement was measured using the percent of station mission achieved in each month. In other words, the total number of contracts written by a station in a month (gross production) was divided by the total contract mission for that month to arrive at an indicator of how well a station achieved its mission. For example, if a station had a mission of five and signed four contracts, the percent of mission achieved for that month would be $4/5$ or .80 (80%). A station with a mission of five that signed six contracts would have a percent mission achieved of $6/5$ or 1.20 (120%) for that month. Because the percent of mission achieved is likely to fluctuate somewhat from month to month, an average across the months spent as a station commander was calculated and used as the final criterion, the station mission achievement index, in order to provide a more reliable criterion measure.

The database for the current research was created by merging files provided by USAREC containing individual level data (e.g., who was a station commander; where were they stationed each month) with station level data (e.g., what was each station's contract mission each month; how many contracts were signed by each station each month). The files provided by USAREC contained information from January 2002 through January 2004.

A few issues were encountered while developing the Station Mission Achievement Index. First, not all individuals in the sample had been a station commander for the same amount of time. The number of months as a station commander ranged from one to 34 with a mean of 13. Because the stability of the station mission achievement index is likely to be higher when more months' data are averaged, including scores based on only a few months of data may attenuate the observed relationships with the predictors, as well as with other criteria. We therefore examined the reliability of the station mission achievement index based

on varying number of months' data (see Table 4) to determine an appropriate cut-off. As expected, the reliability of the station mission achievement index increased as the number of months averaged increases. It is important to note that due to the limitations of the data set, these reliability estimates were calculated within stations across months, as opposed to within station commanders across months. Thus, they do not take into consideration turnover of station commanders or recruiters within stations and may underestimate the true reliability. Nevertheless, a reasonable cut-off appears to be at about four to six months.

Table 4. Reliabilities of the Station Mission Achievement Index Using Different Time Intervals

Time Length	Reliability
36 months	.75
24 months	.74
12 months	.69
11 months	.64
10 months	.65
9 months	.63
8 months	.61
7 months	.58
6 months	.57
5 months	.55
4 months	.56
3 months	.55
2 months	.41

Another issue we encountered is that station commanders may move from one station to another during their tenure with USAREC. In our sample, 48 (26.5%) station commanders changed stations at least once between January 2002 and January 2004. We had concerns that combining production data from different stations may be inappropriate due to differences between stations in geographic location, recruiter ability, etc. Therefore, the station mission achievement index only includes data for the station where the station commanders had the longest tenure. In other words, if a station commander spent 10 months in one station and 15 months in another, only the data associated with the station that he/she was in for 15 months were included in the data analyses. On average, the station commanders in our sample spent 11.8 months in the station with the longest tenure.

Method and Predictor Measures

Method

The test validation research targeting the station commander job used a predictive design. The notion was to identify individuals who had participated in the concurrent validation effort as recruiters in the spring of 2001 *and* were now (early 2004) serving as station commanders. The concurrent sample had 857 recruiters whom had been administered several predictor measures (described below) and 125 of these recruiters were serving as station commanders. Accordingly, it was possible to correlate predictor scores obtained during the recruiter concurrent validation effort with performance criterion scores using the station commander criterion measures described in a previous section.

It should be recognized that this validation research provides a *very preliminary* look at the validity of personality and biodata for predicting station commander performance. First, the sample is one of convenience, including only those recruiters who were promoted to station commander during about a 2-year timeframe. Second, the N is very small with many of the validity analyses including fewer than 100 station commanders. And third, the test battery was designed to predict *recruiter* performance, not necessarily station commander performance, although several of the predictor scales seemed relevant for the station commander job, as well.

Predictor Measures

Four predictor instruments measuring personality and biodata were used in the concurrent validation research with recruiters, and fortunately several of the scales from these instruments appeared relevant for predicting supervisory (i.e., station commander) performance. Descriptions of each are provided next.

Assessment of Individual Motivation (AIM)

The AIM is a self-descriptive inventory that measures motivational attributes relevant to performance in the military. Each AIM item consists of four behavioral statements that are indicative of the underlying psychological constructs being measured. For each item examinees are asked to identify which statement is most descriptive, and which statement is least descriptive of them. The AIM's susceptibility to deliberate faking is reduced by balancing the social desirability of the self-statements within each tetrad. The AIM scales and definitions can be found in Appendix D. See Young, McCloy, Waters, and White (2004) for a more detailed description of the AIM.

Different versions of the AIM have been shown in a series of investigations to predict Soldier attrition and job performance. For example, AIM scores predicted Soldiers' first-term attrition when AIM was administered to new recruits under research conditions (Young, Heggstad, Rumsey, & White, 2000), as well as to Army applicants under operational conditions (White et al., 2004; Young, White, Heggstad, & Barnes, 2004). In other research, Work Motivation and Leadership were linked to Special Forces field performance (Kilcullen, Chen, Zazanis, Carpenter, & Goodwin, 1999a). Work Motivation and Dependability were also strongly associated ($R = .44$) with the successful performance of Correctional Specialists (White & Young, 2001). As a result of these findings, the Army has used the AIM for pre-enlistment screening of non-high school graduates and as a training needs diagnostic for Corrections Specialists. Thus, these results indicate that the AIM has promise for measuring personal characteristics important for NCO job performance.

Biographical Inventory Questionnaire (BIQ)

The Biographical Inventory Questionnaire (BIQ) consists of several rational biodata scales. Self-report biodata scales measure prior behaviors and reactions to specific life events that are indicative of the targeted personal characteristics. Previous research has shown that biodata scales can be used to measure personality constructs, have relatively higher criterion-related validity, and are less fakable than traditional self-report personality assessments (Kilcullen, White, Mumford, & Mack, 1995).

The BIQ administered in the concurrent validity research with recruiters focused primarily on psychological constructs pertinent to leadership, interpersonal skills, and integrity (e.g., Kilcullen et al., 1999a; Kilcullen, Mael, Goodwin, & Zazanis, 1999b). The personal integrity scales have been linked to completion of the Special Forces Assessment and Selection (SFAS) course and a lower incidence of disciplinary infractions among NCO and first term enlisted personnel (e.g., Kilcullen et al., 1999b). In other research, biodata scales for measuring Tolerance for Ambiguity and Openness were predictive of the performance of Special Forces (SF) in Robin Sage, a military exercise designed to represent the SF operational environment (Kilcullen et al., 1999a). In research with Army civilians, individual differences in supervisors' Tolerance for Ambiguity, Openness, Emergent Leadership, and Social Perceptiveness were also related to effective job performance (Kilcullen, White, Zaccaro, & Parker, 2000). Tolerance for Ambiguity and Openness were stronger determinants of successful leadership at higher levels of responsibility where the nature of the work is less structured and ill-defined. Thus, the BIQ has demonstrated evidence for criterion-related validity in military settings and measures constructs that may be relevant for station commander performance. The BIQ scales and definitions can be found in Appendix E.

Emotional Quotient Inventory (EQ-I)

The BarOn EQ-I is a measure of emotional intelligence. Emotional intelligence is defined as an array of non-cognitive capabilities, competencies, and skills that influence one's ability to succeed in coping with environmental demands and pressures. The BarOn EQ-I measures 15 conceptual components of emotional intelligence, including emotional self-awareness, assertiveness, and social responsibility. The Air Force is currently using the EQ-I, along with other measures, to select recruiters. Their top recruiters had high scores on stress tolerance, flexibility, problem solving, self-regard, empathy, and optimism (Bar-On, 1999). The EQ-I scales and definitions appear in Appendix F.

NEO

The NEO Personality Inventory is a measure of the five major domains of personality and some of the more important traits or facets that define each domain (Costa & McCrae, 1992). The NEO short-form assesses the traits of Neuroticism (adjustment or emotional stability), Extraversion (sociability, assertiveness), Openness (active imagination, aesthetic sensitivity, attentiveness to inner feelings), Agreeableness (interpersonal tendencies such as altruism, sympathy to others), and Conscientiousness (impulse control, planning, organizing, and carrying out tasks). The scales were developed and refined by a combination of rational and factor analytic methods and have been the subject of intensive research conducted over 15 years on both clinical and normal adult samples. Several of the Big Five dimensions have been linked to sales performance (Barrick, Mount, & Strauss, 1993; Mount & Barrick, 1998; Vinchur, Schippmann, Switzer, & Roth, 1998), and other research has provided criterion-related validity evidence for the NEO in sales positions (e.g., Stewart, 1996).

COPE

COPE is a multidimensional inventory that assesses an individual's dispositional and situational coping strategies (Carver, Scheier, & Weintraub, 1989). The inventory consists of five scales that measure a variety of problem-focused coping strategies (active coping, planning, suppression of competing activities, restraint coping, and seeking of instrumental social support), five scales that assess aspects of emotion-focused coping strategies (positive reinterpretation, acceptance, seeking of emotional social support, denial, and religion) and three scales that measure maladaptive forms of coping responses (focus on and venting of emotions, denial, and mental disengagement). Factor analytic methods were employed in the scale development and refinement process. Carver, Scheier, and Weintraub (1989) report satisfactory internal consistency, test-retest reliability, and moderate support for convergent and discriminant validity. The COPE scales used in this research and their corresponding definitions are listed in Appendix G.

Criterion Data Collection and Analysis

As reviewed previously, there were two types of criterion measures employed in this predictive validation effort. The first was a set of behavior-based performance rating scales and the second was the station mission achievement index. Next we describe data collection for these measures and then analyses of the criterion data.

Performance Rating Data Collection

Performance rating data were collected from First Sergeants who had supervised the station commanders in our sample. Each rater (First Sergeant) was mailed a CD-rom containing a multi-media presentation that explained the purpose of the project. The CD-rom also presented a rater training program that was designed to: (1) orient raters to the rating task; (2) familiarize raters with the performance dimensions and how each is defined; (3) train raters to use the behavioral anchors to make their performance ratings; (4) describe common rater errors (e.g., halo) and how to avoid them; and (5) encourage raters to be as accurate as possible when making their ratings. Following the rater training program, raters were directed to a secure website on which they made their performance ratings.

Ratings for 106 station commanders were provided by 51 raters, with an average of 2.1 ratees per rater. More than 90% of raters had supervised their ratees for at least 4 months and all raters believed they knew the performance of their station commanders sufficiently to make accurate ratings.

Table 5 illustrates the distribution of ratings across the seven-point rating scale for the raters. There is a low, but noteworthy percentage of ratings at the lower, ineffective end of the scale. Most of the ratings fall in the 4-6 range, but overall, there is reasonable variability in the ratings, suggesting that raters were differentiating between the more and less effective station commanders. Means and standard deviations for the ratings are provided in Table 6. Again, these data suggest reasonable variability in the ratings.

Table 5. Number and Percentage of Supervisor Ratings at Each Scale Point

Rating Scale Point (1=Lowest 7=Highest)	Number of Ratings ^a	Percentage of Ratings
1	31	6
2	58	11
3	64	12

^aTotal number of supervisor ratings across all five dimensions.

Table 5. Number and Percentage of Supervisor Ratings at Each Scale Point (continued)

Rating Scale Point (1=Lowest 7=Highest)	Number of Ratings ^a	Percentage of Ratings
4	123	23
5	108	20
6	110	20
7	36	7

^aTotal number of supervisor ratings across all five dimensions.

Table 6. Mean and Standard Deviations for Mean Ratings on Each Dimension

Rating Dimension	Mean ^a	Standard Deviation
Human Relations Skills	4.44	1.44
Supervisory Skills	4.07	1.64
Training and Development Skills	4.17	1.62
Planning and Organizing Skills	3.99	1.70
Recruiting Skills	4.87	1.57

^aN= 106

Correlations Between the Criterion Measures

Table 7 depicts the relationships between the performance rating factors and the station mission achievement index. Data for station commanders were excluded from the analyses if they spent less than six months as a station commander in a single station or if their First Sergeants had supervised them for less than three months, leaving a sample size of 87. The station mission achievement index was not significantly correlated with any of the performance rating dimensions. However, the small sample size for these analyses (N=84) may have restricted the power to detect any significant relationships. Of the rating dimensions, the station mission achievement index was most highly correlated with the Recruiting Skills dimension (.17), which is encouraging given that this factor represents activities that are most likely to directly impact contract production.

Table 7. Correlations Between Criterion Measures (N=87)

	Station Mission Achievement Index	Human Relations Skills	Supervising Skills	Training & Development Skills	Planning & Organizing Skills	Recruiting Skills
Human Relations Skills	.11					
Supervising Skills	.10	.49*				
Training & Development Skills	-.03	.59*	.71*			
Planning & Organizing Skills	.01	.56*	.72*	.66*		
Recruiting Skills	.17	.49*	.64*	.66*	.60*	
Overall Rating Composite	.09	.76*	.86*	.87*	.85*	.81*

* $p < .05$

Validity Results

These very preliminary validity results are depicted in Tables 8-12 for, respectively, the AIM, BIQ, EQ-I, NEO, and COPE. The AIM scales show generally low validities against both the station mission achievement and rating criteria. Work Motivation correlated significantly at the $p < .10$ level with Planning and Organizing Skills, and Agreeableness correlated significantly ($p < .10$) with Human Relations and Supervisory Skills. However, in general, the relationships in Table 8 are weak with only five significant correlations at the $p < .10$ level out of a total of 49.

Table 8. Validities of AIM Scales Against Performance Ratings and Mission Achievement

	Station Mission Achievement Index	Human Relations Skills	Supervising Skills	Training & Development Skills	Planning & Organizing Skills	Recruiting Skills	Overall Performance
Dominance	-.13	.00	-.01	-.05	-.02	-.05	-.03
Work Motivation	-.06	.06	.18	.14	.19+	.07	.16
Adjustment	-.15	.03	.03	.03	-.00	.04	.02
Agreeableness	-.09	.17+	.17+	.07	.14	.04	.08
Dependability	-.10	-.07	-.07	-.04	-.01	-.11	-.08
Physical Conditioning	.03	.18+	.18+	.08	.09	.08	.14

N = 95 for Performance Ratings

N = 137-138 for Station Mission Achievement Index

* $p < .10$, * $p < .05$

Results from the BIQ (Table 9) were also relatively weak. For the EQ-I (Table 10), there was a slightly greater number of significant relationships, nine at the $p < .05$ level, but that number is only at about the chance level. Further, the NEO has only two correlations significant at the $p < .05$ level and two more at the $p < .10$ level. Unfortunately, this too is about the number of significant correlations expected by chance. Finally, 10 significant correlations were found using the COPE at both the $p < .10$ and $p < .05$ levels. The results are in the expected direction, such that correlations between problem-focused coping strategies (i.e., planning, seeking instrumental social support, suppression of competing activities, restraint coping, acceptance) and the criteria were positive.

One last analysis was conducted to assess the relationship between success as a field recruiter and subsequent station commander performance. Both production rates and supervisory and peer ratings of performance as a recruiter were correlated with these same station commander performance criteria. Results showed very low and non-significant relations between recruiter and subsequent station commander performance.

Table 9. Validities of BIQ Scales Against Performance Ratings and Mission Achievement

	Station Mission Achievement Index	Human Relations Skills	Supervising Skills	Training & Development Skills	Planning & Organizing Skills	Recruiting Skills	Overall Performance
Emergent Leadership	.07	-.09	.16	.06	.04	.13	.07
Self-Esteem	.02	-.13	.07	.00	-.03	.16	.01
Interpersonal Skills	-.10	-.17*	-.07	-.05	.01	.02	-.06
Social Perceptiveness	.10	.04	.06	-.10	-.02	-.01	-.01
Tolerance for Ambiguity	.09	.11	.18*	.13	.14	.16	.17*
Hostility to Authority	.21*	.05	-.03	-.01	-.11	.12	.00

N = 94 for Performance Ratings

N = 137-138 for Station Mission Achievement Index

* $p < .10$, * $p < .05$

Table 10. Validities of EQ-I Scales Against Performance Ratings and Mission Achievement

	Station Mission Achievement Index	Human Relations Skills	Supervising Skills	Training & Development Skills	Planning & Organizing Skills	Recruiting Skills	Overall Performance
Problem Solving	.01	-.02	.25*	.08	.11	.15	.14
Social Responsibility	-.02	-.19*	.00	-.09	-.01	-.05	-.08
Happiness	-.11	-.05	.10	.00	.01	.10	.04
Independence	-.03	-.04	.16	.13	.13	.11	.12
Stress Tolerance	.08	.00	.18	.13	.08	.17	.13
Positive Impression	.02	-.05	-.17	-.16	-.18*	-.23*	-.19*
Self-actualization	-.03	-.11	.19	.08	.12	.14	.10
Assertiveness	.17*	-.05	.07	-.03	-.09	-.02	-.03
Reality Testing	-.08	-.15	.19	.11	.07	.03	.06

Table 10. Validities of EQ-I Scales Against Performance Ratings and Mission Achievement (continued)

	Station Mission Achievement Index	Human Relations Skills	Supervising Skills	Training & Development Skills	Planning & Organizing Skills	Recruiting Skills	Overall Performance
Interpersonal Relationship	-.01	-.15	.10	-.04	.01	.01	-.02
Self-regard	-.04	-.05	.18	.11	.00	.11	.09
Negative Impression	.08	.07	-.16	-.14	-.03	-.04	-.07
Impulse Control	-.10	-.04	.19	.10	-.02	.04	.07
Flexibility	-.13	-.16	.08	-.02	.03	.04	-.01
Emotional Awareness	-.06	-.04	.30*	.17	.07	.23*	.17
Empathy	.01	-.08	-.01	-.07	-.01	-.09	-.06
Optimism	-.02	-.01	.22*	.07	.08	.04	.10
Intrapersonal Relationships	-.01	-.07	.23*	.12	.06	.14	.12
Interpersonal Relationships	-.01	-.15	.06	-.06	.02	-.02	-.04
Adaptability	-.08	-.14	.21+	.07	.08	.08	.07
Stress Management	.00	-.02	.22*	.14	.03	.12	.12
General Mood	-.07	-.03	.18+	.05	.06	.09	.09
Total Score	-.04	-.10	.23*	.10	.07	.11	.10

N = 90 for Performance Ratings

N = 132 for Station Mission Achievement Index

* $p < .10$, * $p < .05$

Table 11. Validities of NEO Scales Against Performance Ratings and Mission Achievement

	Station Mission Achievement Index	Human Relations Skills	Supervising Skills	Training & Development Skills	Planning & Organizing Skills	Recruiting Skills	Overall Performance
Agreeableness	.11	-.02	.03	-.13	.01	-.08	-.04
Neuroticism	.23*	-.03	-.13	-.07	-.10	.00	-.08
Extraversion	.03	.06	.15	-.02	.17	.02	.09
Openness	-.08	-.19	-.06	-.24+	-.07	-.30*	-.20+
Conscientiousness	-.05	.00	.05	-.06	.12	-.16	-.01

N = 69 for Performance Ratings

N = 103 for Station Mission Achievement Index

* $p < .10$, * $p < .05$

Table 12. Validities of COPE Scales Against Performance Ratings and Mission Achievement

	Station Mission Achievement Index	Human Relations Skills	Supervising Skills	Training & Development Skills	Planning & Organizing Skills	Recruiting Skills	Overall Performance
Planning	-.01	-.04	.20 ⁺	.02	-.01	-.12	.01
Active	-.02	.16	.19	-.02	-.05	-.05	.06
Seeking Instrumental Social Support	.05	.04	.21 ⁺	-.01	-.01	.05	.07
Seeking Emotional Social Support	.04	.00	.09	-.10	-.10	-.02	-.03
Suppression of Competing Activities	.07	.02	.28 [*]	.10	.07	.06	.12
Positive Reinterpretation and Growth	-.09	.00	.10	.04	-.03	-.11	.00
Restraint Coping	.08	.14	.29 [*]	.23 ⁺	.11	.17	.22 ⁺
Acceptance	.19	.20	.33 [*]	.12	.17	.17	.24 [*]
Venting	.00	-.06	-.10	-.17	-.27 [*]	-.04	-.15
Denial	.11	-.06	-.03	-.10	-.16	.01	-.08
Humor	-.03	.12	.11	.11	.07	.22 ⁺	.15
Mental Disengagement	.01	.01	.03	.07	-.04	.11	.04
Behavioral Disengagement	.15	-.03	.09	.05	-.03	.15	.06

N = 73 for Performance Ratings

N = 97 for Station Mission Achievement Index

⁺ $p < .10$, ^{*} $p < .05$

Conclusions and Recommendations

Our analysis of the station commander job suggested that, indeed, this job is more complex than the job of field recruiter. As expected, the performance requirements extend importantly into the areas of supervision and management. Similar to the recruiter job, the dimensions of planning and organizing and dealing effectively with people, especially prospects, emerged from the job analysis as important performance requirements. But, in addition, interpersonal skills in relation to recruiters in the station, supervising skills, and training and development skills were identified as important for success. Regarding interpersonal skills, station commanders must maintain a supportive relationship and back up their recruiters. They need to be receptive to recruiters' questions and ideas and show genuine concern for their well-being.

In the areas of supervision, effective station commanders are good at strategically assigning tasks to recruiters, they set performance standards for individual recruiters, and monitor each recruiter's performance, holding them accountable. Effective station commanders also provide constructive performance feedback and excellent guidance for their activities. They accurately identify recruiter training needs and provide useful coaching to help recruiters improve their job skills.

Regarding the preliminary test validation research, the initial results were inconclusive. Correlations were low to moderate between the predictor measures and indices of station commander performance. Possible reasons for not obtaining higher or a larger number of statistically significant validities are: (1) the relatively long time between predictor testing and performance criterion measurement; (2) the sample was too small and unrepresentative, limiting the power of the analyses; (3) the station mission achievement index may have included elements beyond the control of the station commander; and (4) the single set of performance ratings for each station commander ratee may have resulted in unreliable performance scores.

The roughly three year time delay between predictor testing and performance criterion measurement may have limited the magnitude of these validities. It is not uncommon for such a time difference between measurements to be associated with relatively low correlations. In addition, the sample size in this predictive validation research started at 125, but we collected performance ratings on only about 90 station commanders, and the sample was smaller than that for some of the analyses. By most accounts, this is too small for obtaining stable results (e.g., Schmidt & Hunter, 1977). Also, the sample consisted of recruiters who had recently been promoted to station commander. This may well have resulted in an unrepresentative sample of station commanders.

The station mission achievement index, the number of accessions per month divided by the USAREC provided goal, seemed in general to be a reasonable measure of station commander performance. However, we should note that summary objective outcome indices like this (e.g., sales volume per unit time) are almost always contaminated, that is, they are affected by factors beyond the control of the target performer. We mentioned previously that events such as a temporary downturn (or upturn) in the local economy, an Army war hero returning to the local area, or the like may influence station production beyond what can be accomplished by the station commander. Accordingly, error in this index could have adversely affected the predictor validities against this criterion.

Finally, because there was only one set of ratings for each station commander (i.e., the First Sergeant's rating) we could not compute an interrater reliability coefficient for the ratings. However, we know from many other studies (e.g., Borman, 1991) that reliability increases with additional numbers of raters per ratee. Thus, if we could have had additional supervisors or perhaps the stations' recruiters make ratings as well, the reliability of the ratings might have been higher, making more likely higher validities for the predictor tests.

Regarding recommendations, the station commander behavior-based rating scales might be used for self-development. The explicit behavioral representation of high, mid-range, and low performance on all important facets of the job provides clear guidance about the kinds of behavior to be emulated and the behaviors to be avoided as a station commander. The scales could also be used by supervisors to counsel and coach station commanders, especially early in their tenure. Again, the specific behavioral benchmarks should lead to detailed relevant feedback and coaching to improve performance. A second recommendation is to revise the predictor battery based on these results and conduct larger scale validation research. A third recommendation is to examine whether the predictors are more useful in predicting more near-term performance. Higher levels of validity may be seen with predicting performance 6-months to 1-year later.

Finally, a fourth recommendation is to explore the use of the COPE as a diagnostic tool for station commanders. Results suggest that problem-solving coping strategies are related to effective station commander performance. The COPE could be used for assessment, and to develop training with regard to those strategies relevant to effective performance.

References

- Bar-On, R. (1999). *EQ-i Baron Emotional Quotient Inventory Technical Manual*. Toronto, ON: Multi-Health Systems Inc.
- Barrick, M. R., & Mount, M. K. (1991). The big five personality dimensions and job performance: A meta-analysis. *Personnel Psychology*, 44, 1-26.
- Barrick, M. R., Mount, M. K., & Judge, T. A. (2001). Personality and performance at the beginning of the new millennium: What do we know and where do we go next? *International Journal of Selection and Assessment*, 9(1), 9-29.
- Barrick, M. R., Mount, M. K., & Strauss, J. P. (1993). Conscientiousness and performance of sales representatives: Test of the mediating effects of goal setting. *Journal of Applied Psychology*, 78, 715 - 722.
- Bass, B. M. (1985). *Leadership and Performance Beyond Expectations*. New York: Free Press.
- Borman, W. C. (1991). Job behavior, performance, and effectiveness. Chapter in M. D. Dunnette & L. M. Hough (Eds.), *Handbook of Industrial and Organizational Psychology* (pp. 271-326). Palo Alto, CA: Consulting Psychologists Press.
- Borman, W. C., & Brush, D. H. (1993). More progress toward a taxonomy of managerial performance requirements. *Human Performance*, 6(1), 1-21.
- Borman, W. C., Hanson, M. A., Oppler, S. H., Pulakos, E. D., & White, L. A., (1993). Role of early supervisory experience in supervisor performance. *Journal of Applied Psychology*, 78, 443-449.
- Borman, W. C., Horgen, K. E., Birkeland, S. A., Penney, L. M., Sutton, M. J., & Mills, L. J. (2001). *Development of Recruiter Assessment Measures for the U. S. Army* (Institute Report #382). Tampa, FL: Personnel Decisions Research Institutes, Inc.
- Borman, W. C., Hough, L. M., & Dunnette, M. D. (1976). *Development of behaviorally based rating scales for evaluating the performance of U. S. Navy recruiters* (Institute Report #6). (NPRDC TR-76-31). Navy Personnel Research and Development Center.

- Borman, W. C., Rosse, R. L., & Rose, S. R. (1982). *Predicting performance in recruiter training: Validity of assessment in the recruiter development center* (Institute Report #73). Minneapolis, MN: Personnel Decisions Research Institutes.
- Borman, W. C., Rosse, R. L., & Toquam, J. L. (1982). The impact of environmental factors and consideration of recruit quality on Navy Recruiter production (Institute Report 78). Minneapolis, MN: Personnel Decisions Research Institutes.
- Borman, W. C., Russell, T. L., & Skilling, N. J. (1987). *Development of behavior-based rating scales and analysis of Recruiter Selection Battery data for the Army recruiter job* (Research Report No. 1441). Alexandria, VA: U. S. Army Research Institute for the Behavioral and Social Sciences, Alexandria, VA.
- Borman, W. C., Toquam, J. L., & Rosse, R. L. (1978). *Development and validation of an inventory battery to predict Navy and Marine Corps recruiter performance* (Institute Report #22). Minneapolis, MN: Personnel Decisions Research Institutes.
- Buzzotta, V. R., & Lefton, R. E. (1982). Is there a preferred style of sales management? *The Journal of Personal Selling and Sales Management*, 2, 1-7.
- Carver, C. S., Scheier, M. F., & Weintraub, J. K. (1989). Assessing coping strategies: A theoretically based approach. *Journal of Personality and Social Psychology*, 56, 267-283.
- Campbell, J. P. (1990). Modeling the performance prediction problem in industrial and organizational psychology. In M. D. Dunnette & L. M. Hough (Eds.) *Handbook of Industrial and Organizational Psychology*, Second Edition, Consulting Psychologists Press, Inc.: Palo Alto, CA.
- Campbell, J. P., & Knapp, D. J. (Eds.) (2001). *Exploring the Limits in Personnel Selection and Classification*. Lawrence Erlbaum Associates, Inc.; Mahwah, NJ.
- Costa, P. T., & McCrae, R. R. (1992). *NEO PI-R Professional Manual*. PAR: Odessa, FL.
- Dubinsky, A. J., Yammarino, F. J., Jolson, M. A., & Spangler, W. D. (1995). Transformational leadership: An initial investigation in sales management. *Journal of Personal Selling and Sales Management*, 15, 17-28.
- Flanagan, J. C. (1951). Defining the requirements of the executive's job. *Personnel*, 28, 28-35.
- Flanagan, J. C. (1954). The critical incident technique. *Psychological Bulletin*, 51, 327-359.

- Ghiselli, E. E. (1966). *The validity of occupational aptitude tests*. New York: Wiley.
- Ghiselli, E. E. (1973). The validity of aptitude tests in personnel selection. *Personnel Psychology*, 26, 461-477.
- Guion, R. M., & Gottier, R. F. (1965). Validity of personality measures in personnel selection. *Personnel Psychology*, 18, 135-164.
- Hemphill, J. K. (1959). Job descriptions of executives. *Harvard Business Review*, 37, 55-67.
- Hite, R. E., & Bellizzi, J. A. (1986). A preferred style of sales management. *Industrial Marketing Management*, 15, 215-223.
- Huck, J. R., & Bray, D. W. (1976). Management assessment center evaluations and subsequent job performance of white and black females. *Personnel Psychology*, 29, 13-30.
- Hunter, J. E. (1980). Validity Generalization for 12,000 jobs: *An application of synthetic validity and validity generalization to the General Aptitude Test Battery (GATB)*. Washington, D. C. : U. S. Department of Labor, Employment Service.
- Hunter, J. E., & Hunter, R. F. (1984). Validity and utility of alternative predictors of job performance. *Psychological Bulletin*, 96, 72-98.
- Joyce, L. W., Thayer, P. W., & Pond, S. B. (1994). Managerial functions: An alternative to traditional assessment center dimensions? *Personnel Psychology*, 47(1), 109-121.
- Judge, T. A., Bono, J. E., Ilies, R., & Gerhardt, M. W. (2002). Personality and leadership: A qualitative and quantitative review. *Journal of Applied Psychology*, 87, 765-780.
- Kilcullen, R. N., Chen, G., Zazanis, M. M., & Carpenter, T., & Goodwin, G. (1999a). *Adaptable performance in unstructured environments*. Paper presented at the annual meeting of the Society for Industrial and Organizational Psychology, Atlanta, GA.
- Kilcullen, R. N., Mael, F. A., Goodwin, G. F., & Zazanis, M. M. (1999b). Predicting U.S. Army Special Forces field performance. *Journal of Human Performance in Extreme Environments*, 4, 53-63.
- Kilcullen, R. N., White, L. A., Mumford, M. D., & Mack, H. (1995). Assessing the construct validity of rational biodata scales. *Military Psychology*, 7(1), 17-28.

- Kilcullen, R. N., White, L. A., Zacarro, S., & Parker, C. (2000). *Predicting Managerial and Executive Performance*. Paper presented at the 15th Annual Conference, Society for Industrial and Organizational Psychology, New Orleans, LA
- Klimoski, R., & Brickner, M. (1987). Why do assessment centers work? The puzzle of assessment center validity. *Personnel Psychology*, 40, 243-260.
- Kubisiak, U. C., McGonigle, T., Horgen, K. E., Borman, W. C., Kaufman, J. D., & Casper, W. J. (May 2003). *Identifying and evaluating USAREC station-level business practices: Literature review* (Institute Report #426). Tampa, FL: Personnel Decisions Research Institutes.
- Likert, R. (1961). *New Patterns of Management*. New York: McGraw-Hill.
- Macan, T. H., Avedon, M. J., Paese, M., & Smith, D. E. (1994). The effects of applicants' reactions to cognitive ability tests and an assessment center. *Personnel Psychology*, 44, 763-792.
- MacKenzie, S. B., Podsakoff, P. M., & Rich, G. A. (2001). Transformational and transactional leadership and salesperson performance. *Journal of the Academy of Marketing Science*, 29(2), 115-134.
- Mael, F. A. (1991). A conceptual rationale for the domain and attributes of biodata items. *Personnel Psychology*, 44, 763-792.
- Mahoney, T. A., Jerdee, T. H., & Carroll, S. J. (1965). The job(s) of management. *Industrial Relations*, 4, 97-110.
- Mahoney, T. A., Sorenson, W., Jerdee, T. H., & Nash, A. N. (1963). Identification of managerial effectiveness. *Personnel Administration*, 26, 12-22.
- Mount, M. K., & Barrick, M. R. (1998). Five reasons why the "Five Factor" article has been frequently cited. *Personnel Psychology*, 51, 849-857.
- Murray, M. P., & McDonald, L. L. (1999). Recent recruiting trends and their implications for models of enlistment supply. Santa Monica, CA: RAND National Defense Research Institute. [AD A360 747]
- Pearlman, K., Schmidt, F. L. & Hunter, J. E. (1980). Validity generalization results for tests used to predict job proficiency and training criteria in clerical occupations. *Journal of Applied Psychology*, 65, 373-407.
- Penney, L. M., Sutton, M. J., & Borman, W. C. (2001a) An annotated bibliography of recruiting research conducted in the U. S. armed services and in foreign services. (Technical Report 366). Tampa, FL: Personnel Decisions Research Institutes.

- Penney, L. M., Borman, W. C., Hedge, J. W., Abrahams, N. T., & Drenth D. J. (2001b). *Development of Recruiter and Recruiter-in-Charge (RINC) Performance Criteria* (Institute Report #381). Tampa, FL: Personnel Decisions Research Institutes, Inc.
- Reilley, R. R., & Chao, G. T. (1982). Validity and fairness of some alternative employee selection procedures. *Personnel Psychology*, 35, 1-62.
- Russ, F. A., McNeiley, K. M., & Comer, J. M. (1996). Leadership, decision making and performance of sales managers: A multi-level approach. *Journal of Personal Selling and Sales Management*, 16(3), 1-15.
- Schmidt, F. L. & Hunter, J. E. (1977). Development of a general solution to the problem of validity generalization. *Journal of Applied Psychology*, 62, 529-540.
- Schmidt, F. L., & Hunter, J. E. (1998). The validity and utility of selection methods in personnel psychology: Practical and theoretical implications of 85 years of research findings. *Psychological Bulletin*, 124(2), 262-274.
- Schmitt, N., Gooding, R. Z., Noe, R. A., & Kirsch, M. (1984). Meta-analysis of validity studies published between 1964 and 1982 and the investigation of study characteristics. *Personnel Psychology*, 37, 407-422.
- Stewart, G. L. (1996). Reward structure as a moderator of the relationship between extraversion and sales performance. *Journal of Applied Psychology*, 81, 619 - 627.
- Stogdill, R. M. (1948). Personal factors associated with leadership. *Journal of Psychology*, 25, 35-71.
- Tett, R. P., Guterman, H. A., Bleier, A., & Murphy, P. J. (2000). Development and content validation of a "hyperdimensional" taxonomy of managerial competence. *Human Performance*, 13(3), 205-251.
- Tornow, W. W., & Pinto, P. R. (1976). The development of a managerial job taxonomy: A system for describing, classifying and evaluating executive positions. *Journal of Applied Psychology*, 61, 410-418.
- U. S. Army Audit Agency (15 January 2003). Station Missioning, U. S. Army Recruiting Command. Audit Report: A-2003-0093-FFF.
- Vinchur, A. J., Schippmann, J. S., Switzer, F. S. III & Roth, P. L. (1998). A meta-analytic review of predictors of job performance for salespeople. *Journal of Applied Psychology*, 83(4), 586-597.
- Weekley, J. A., & Jones, C., (1999). Further studies of situational tests. *Personnel Psychology*, 52(3), 679-700.

White, L.A., & Young, M. C. (2001, April). *Validation of a faking-resistant measure of temperament constructs*. Paper presented at the 16th Annual Conference, Society for Industrial and Organizational Psychology, San Diego, CA.

White, L. A., Young, M. C., Heggstad, E. D., Stark, S., Drasgow, F., and Piskator, G. (2004, November). *Development of a non-high school diploma graduate pre-enlistment screening model to enhance the Future Force*. Paper presented at the 24th Annual Army Science Conference, Orlando, FL.

Williams, R. E. (1956). *A description of some executive abilities by means of the critical incident technique*. Unpublished doctoral dissertation, Columbia University, New York.

Young, M. C., Heggstad, E. D., Rumsey, M. G., & White, L. A. (2000, August). *Army pre-implementation research findings on the Assessment of Individual Motivation (AIM)*. Paper presented at the annual meeting of the American Psychological Association, Washington, DC.

Young, M. C., McCloy, R. A., Waters, B. K., & White, L. A. (2004). Introduction: An overview of AIM and the preliminary efforts to support its operational use. In Knapp, D. J., Heggstad, E. D., & Young, M. C. (Eds.), *Understanding and Improving the Assessment of Individual Motivation (AIM) in the Army's GED Plus Program*. (ARI Study Note 2004-03). Alexandria, VA: U.S. Army Research Institute for the Behavioral and Social Sciences.

Young, M. C., White, L. A., Heggstad, E. D., & Barnes, J. D. (2004, July). *Operational validation of the Army's new pre-enlistment screening measure*. Paper presented at the annual meeting of the American Psychological Association, Honolulu, HI.

Appendix A – Station Commander Performance Rating Scales

Station Commander Performance Rating Scales

Privacy Act Statement

Principal Purposes: The Station Commander ratings that you and others are providing will be used to evaluate new measures for identifying high potential Station Commanders. The ratings are being collected on a sample of Station Commanders who previously completed these new measures.

Routine Uses: None.

Disclosure: Voluntary. The ratings will be used for research purposes only and will not become a part of any official personnel record. This information will be treated as confidential. Some findings may be published in professional journals, presented at scientific meetings, and/or used to evaluate Army personnel policies. In no case will ratings be reported for identifiable individuals. Only group-level summary statistics will be reported.

Next >

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You should have completed the video rater training prior to completing this rating scale.

If you are completing ratings for more than one person, you will be returned to the start page after completing a rating.

Please fill in the requested information on the following screens for each person you are rating.

Thank you for your support.

Click next to complete your ratings

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What is your current position?

- ☐ First Sergeant
- ☐ Company Commander

Rater ID Number (found on instruction letter; e.g., 101)

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Initials of person you are rating:

First letter of first name of person you are rating:

First letter of last name of person you are rating:

ID Number of person you are rating: (found on instruction letter; e.g., 5001)

How long have you been in your position as a supervisor to the person you are rating?

- ☐ 0-3 months
- ☐ 4-6 months
- ☐ 7-12 months
- ☐ 13-24 months
- ☐ more than 2 years

The person you are rating became a Station Commander:

Month (select one)

Year (select one)

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Human Relations Skills

Definition:

This rating scale pertains to developing and maintaining supportive relationships with recruiters in the station; demonstrating receptiveness to recruiters' questions and ideas; treating recruiters with respect, demonstrating a genuine concern for their needs, and making time to assist recruiters with personal problems.

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Human Relations Skills

Rate the Station Commander on the following scale:

LOW (Ratings 1-2)

Is not good at developing or maintaining relationships with recruiters and may even alienate them; is often inaccessible to recruiters or tends to ignore their questions or ideas; demonstrates very little support for recruiters or their family's needs; often fails to recognize when recruiters are having personal problems or does not provide assistance when problems are evident.

MID-RANGE (Ratings 3-5)

Develops and maintains good rapport with recruiters and backs them up most of the time; is usually receptive to recruiters' questions and ideas; typically shows concern for the welfare of recruiters and their families; generally recognizes when recruiters are having personal problems, and will assist them when time permits.

HIGH (Ratings 6-7)

Is exceptionally effective at supporting and backing up recruiters, including acting as a buffer between them and the chain of command; maintains an effective open door policy with recruiters, and is very receptive to recruiters' questions and ideas; shows genuine concern for the welfare of recruiters and their families; quickly recognizes when recruiters are having personal problems and, even when busy, takes time to assist them.

	LOW		MID-RANGE			HIGH	
	1	2	3	4	5	6	7
RATING	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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Supervising Skills

Definition:

This rating scale pertains to setting and maintaining performance standards for recruiters; monitoring recruiters' performance and motivating them by providing recognition, encouragement and constructive criticism; and solving station problems.

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Supervising Skills

Rate the Station Commander on the following scale:

LOW (Ratings 1-2)

Sets goals for recruiters that are too easy or too difficult, or may even fail to set goals; is often unaware of recruiters' performance and fails to monitor, follow up or hold them accountable; tends to ignore or otherwise fails to address recruiter or station problems.

MID-RANGE (Ratings 3-5)

Sets satisfactory performance standards for individual recruiters; monitors recruiters' performance, and usually holds them accountable; typically solves most of the station's problems effectively.

HIGH (Ratings 6-7)

Very effectively sets performance standards for individual recruiters; is highly consistent and fair about monitoring and evaluating recruiters' performance and holding them accountable; almost always implements creative and highly effective solutions to station problems.

	LOW		MID-RANGE			HIGH	
	1	2	3	4	5	6	7
RATING	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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Training and Developmental Skills (Subordinates)

Definition:

This rating scale pertains to offering feedback and guidance to recruiters to help them improve their job performance; modeling appropriate behavior so that recruiters know what to do on the job; developing recruiters' skills by identifying their job-related training needs, and offering internal or external training support to meet those needs.

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Training and Development Skills

Rate the Station Commander on the following scale:

LOW (Ratings 1-2)

Tends to provide feedback and guidance that is not very helpful or useful for improving performance; is inconsistent about taking the time to coach or provide guidance to recruiters; sets a poor example with own behavior so that recruiters are confused or get wrong ideas about what to do on the job; shows limited ability to identify training needs and to offer appropriate training; fails to recommend or recommends inappropriate internal or external job training opportunities.

MID-RANGE (Ratings 3-5)

Usually offers helpful performance feedback and takes the time to coach recruiters; most of the time sets a good example with own behavior so that recruiters know what is expected; is typically able to assess individuals' training needs and offer internal or external job training opportunities, when needed, to improve their job skills.

HIGH (Ratings 6-7)

Routinely offers detailed performance feedback; sets a highly effective example with own behavior, attitude, and dedication, providing recruiters with excellent guidance for their activities; skillfully identifies recruiter training needs, and provides very useful coaching to help improve recruiters' job skills; recommends highly effective internal or external job training opportunities, as appropriate.

	LOW		MID-RANGE			HIGH	
	1	2	3	4	5	6	7
RATING	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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Planning and Organizing Skills

Definition:

This rating scale pertains to planning for both short and long term recruiting goals; managing and allocating the assets of the recruiting station; completing paperwork accurately and on time; prioritizing own work activities to make efficient use of time available; keeping First Sergeant and the Company Command informed of station activities.

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Planning and Organizing Skills

Rate the Station Commander on the following scale:

LOW (Ratings 1-2)

When planning work for the station focuses on short term goals, often at the expense of long term goals; is inefficient at allocating recruiters and other resources; paperwork is often not completed or is completed late or inaccurately; has difficulty organizing own and others' work and does so inefficiently and ineffectively; often fails to keep chain of command informed of station activities.

MID-RANGE (Ratings 3-5)

Is mindful of short term station goals, and considers some long term goals; adequately allocates recruiter and other resources to use time efficiently; completes most paperwork accurately and near schedule; organizes work activity to improve work efficiency and effectiveness; usually keeps chain of command informed of important station activities.

HIGH (Ratings 6-7)

Consistently develops both short and long term strategic goals for the station; skillfully allocates recruiting station resources to maximize their usefulness toward mission accomplishment; is highly adept at completing paperwork accurately and on or ahead of schedule; organizes own work to maximize efficiency and effectiveness; consistently keeps the chain of command informed of all relevant station activities.

	LOW		MID-RANGE			HIGH	
	1	2	3	4	5	6	7
RATING	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

<input type="button" value=" < Back"/>	<input type="button" value=" Next >"/>	<input type="button" value=" Save"/>
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Recruiting Skills

Definition:

This rating scale pertains to knowing when, where, and how to prospect; adapting sales techniques to persuade prospects to join the Army; establishing rapport with and trust of prospects and their families; handling objections and knowing when and how to close; developing and maintaining productive relationships with individuals and agencies in the community; creating and managing a DEP maintenance program to maintain DEP enlistment rates.

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Recruiting Skills

Rate the Station Commander on the following scale:

LOW (Ratings 1-2)

Rarely prospects, even when it is important to do so, and often fails to follow-up on promising leads; presents the benefits/features of the Army in a way that does not interest most prospects; often fails to establish rapport or gain trust of prospects and their families; is frequently unable to identify or overcome objections about the Army and is often unable to close; fails to contact or fully develop relationships with persons and organizations in the community; fails to manage or participate in efforts to maintain DEP enlistment rates.

MID-RANGE (Ratings 3-5)

Effectively locates and contacts qualified prospects; presents the benefits/features of the Army so that most prospects become interested; generally establishes good rapport and trust with prospects and their families; can identify and overcome frequently heard objections about the Army and closes effectively in some situations; develops and maintains limited relationships with appropriate persons and organizations in the community; for the most part, develops and manages effective efforts to maintain DEP enlistment rates.

HIGH (Ratings 6-7)

Displays ingenuity and enthusiasm in effectively locating and contacting qualified prospects; presents the benefits/features of the Army in a highly convincing way; quickly and effectively establishes rapport and trust with prospects and their families; is very good at identifying and overcoming objections about the Army and skillfully closes even in difficult situations; is exceptionally alert to and adept at developing and maintaining productive relationships with appropriate persons and organizations in the community; displays creativity and enthusiasm in developing and managing initiatives to maintain high DEP enlistment rates.

	LOW		MID-RANGE			HIGH	
	1	2	3	4	5	6	7
RATING	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Thank you for completing the Station Commander Performance Rating Scales. Please read all of the information on this page:

If you have finished making all of your ratings, you have completed this task. Click "FINISH" below, then close your browser and remove the CD-ROM from your computer.

If you have more ratings to make, click "FINISH" below and you will be returned to the Station Commander Performance Rating Scales start page. Once you have been returned to the Station Commander Performance Rating Scales start page, please continue the next rating.

Appendix B – Performance Example Workshop Instructions



Station Commander Performance Example Workshop Instructions

Background

Personnel Decisions Research Institutes (PDRI) was tasked by the Army to develop behavior-based performance rating scales for the Station Commander job. We have developed this kind of performance rating format for a number of jobs in industry and for other U.S. military jobs, including scales for Army field recruiters.

Purpose Of This Workshop

Today's workshop is the first step in developing a state-of-the-art rating form for evaluating Station Commander job performance. We will design what are referred to as behavior-based rating scales, a rating form that offers the opportunity for relatively objective assessments of performance.

Behavior-based rating scales have the following advantages:

- the scales are constructed to reflect performance requirements regarded as important by those knowledgeable about the job,
- the scales define, in concrete terms, the relevant and important performance requirements,
- job experts agree on the effectiveness levels of scaled job behaviors used as performance effectiveness "anchors,"
- the rating task with these scales emphasizes objective observation rather than subjective evaluation,
- in sum, raters can compare the observed performance of a Station Commander to behavioral benchmarks or standards of effectiveness, resulting in more objective performance judgments.

To develop these behavior-based rating scales, we need to start by collecting a large number of "performance examples," and that is the purpose of the workshop today.

Writing Performance Examples

In today's workshop, we want you to describe examples of ineffective, acceptable, and effective performance of Station Commanders on the job. The performance examples you write should be behaviors you have observed Station Commanders perform on the job, or have experienced while performing your own job as a Station Commander.

You will be provided with special forms on which to write the performance examples. A single performance example should be written on each form.

Please try to come up with performance examples that reflect the entire range of effectiveness, including ineffective, acceptable, and effective Station Commander performance.

Specific Instructions for Writing Performance Examples

Before you begin writing examples, think back over the entire time you have been in recruiting. Think about things you saw Station Commanders do that made you think of them as ineffective, acceptable, or effective on their job. In other words, think of *specific examples of job behavior* that gave you some feeling for how well a Station Commander was performing. When you write down these examples, you should include three things:

- a statement (e.g., one or two sentences) about the **situation** or circumstances leading up to the performance example;
- a specific description of **what the Station Commander did** (or did not do) that made you think he/she was ineffective, acceptable, or effective; and,
- a brief description of the **outcome** or consequences of the behavior (if applicable).

The key to writing a good performance example is to describe what you saw the person *do*, not what you inferred from the action. For example, instead of saying "the Station Commander was very organized," you should describe exactly what the Station Commander **did** to make you believe his/her efforts were organized.

Here are a couple of good examples, the kind we would like you to write:

- A young man told this Station Commander he wanted to quit high school and join the Army. In reaction, the Station Commander asked the recruiter who was working this prospect to contact the young man's high school counselor to gather more information on his situation. As a result, the recruiter learned that the prospect was doing well in school, but really wanted to be in the Army.
- A new recruiter asked this Station Commander for some help with the parents of a prospect who didn't want their son to join the Army. The Station Commander said he was too busy but could provide some advice to the recruiter in a week or so. As a result, the recruiter lost the prospect to a Navy recruiter.

Thus, a good performance example:

- describes the behavior of an **individual Station Commander**;
- tells what the Station Commander did (or did not do) that was ineffective, acceptable, or effective;
- describes briefly, but clearly, the situation in which the performance example took place;

- describes the consequences of the person's behavior (where appropriate); and,
- is to the point, that is, it does not go to great lengths describing unimportant details.

After writing each performance example, please rate how effective you believe the behavior described in the example was by circling one of the numbers on the rating scale which appears at the bottom of the Performance Example Form. Notice that the low numbers indicate ineffective performance and high numbers indicate effective performance. For example, if the behavior in the example is very ineffective, you should circle a "1." If the behavior in the example is adequate, but not an especially effective action, a "3" might be the appropriate rating to circle.

Appendix C – Retranslation Workshop Instructions

Army Recruiting Station Commander

Performance Rating Scales

Retranslation Workshop Instructions

Army Recruiting Station Commander Performance Categories

Background

Personnel Decisions Research Institutes (PDRI) was tasked by the Army to develop behavior based performance rating scales for the Station Commander job. We have developed this kind of performance rating format for a number of jobs in industry and for other U.S. military jobs, including scales for Army field recruiters.

In this workshop, we will be asking you to help us with a project to develop a performance evaluation instrument for Army Recruiting Station Commanders. Our task is to identify job dimensions that reflect those qualities that differentiate effective performers from ineffective performers. Based on the most important job dimensions, we will develop a new performance evaluation system that focuses on evaluating Station Commanders based on how well they perform in the workplace. The information you provide today will not adversely affect your career in any way and you are free to withdraw from participation at any time.

Purpose of the Workshop

Last month we met with students in the Station Commander course at Ft. Jackson and asked them to describe examples of work-related behaviors that they had observed. These examples were provided anonymously, and reflect what actually happens throughout USAREC. We then summarized these examples into behavior statements reflecting effective, mid-range, and ineffective performance. Over 150 performance examples were produced during these workshops, and this information has been used to generate the materials you will use today.

In today's workshop, we are asking you to read these performance statements, place them in categories we will show you in a moment, and rate the effectiveness of the behavior described in each performance statement.

Completing the Performance Example Rating Task

For each of 15 performance statements, we ask you to make two judgments:

1. Determine the performance category in which the statement best fits; and
2. Rate the effectiveness of the behavior described in the statement.

Before you begin making your judgments, please review carefully the *Army Recruiting Station Commander Performance Categories*. Once you have become familiar with these performance categories, you will be ready to begin the rating task.

Army Recruiting Station Commander Performance Categories

The effectiveness ratings that you assign to each performance statement will range from 1 to 3, as follows:

- 1 = Ineffective
- 2 = Mid-range
- 3 = Effective

To help calibrate your effectiveness ratings, we provide three example statements to clarify the distinctions between the levels of performance.

- A. Responds effectively when duties are disrupted by routine changes in assignments, but has some difficulty if the changes are due to emergencies that arise.
- B. Always willing to lend a hand when colleagues appear overwhelmed or behind schedule.
- C. Fails to use time wisely; for example, might spend excess time visiting with coworkers or talking to friends on the phone.

Notice that Example A is adequate but probably not as effective as hoped for, so a 2 or "mid-range" rating might be the most appropriate effectiveness rating. Example B is probably more appropriately at the 3 or "effective" level, as the example depicts superior performance. Example C probably deserves a 1 rating due to the "ineffective" level of performance described.

Now please open the envelope containing the performance statements and remove them. The task is to sort each statement into one of the 5 Performance Categories and also rate the effectiveness level (1, 2, or 3) of each statement. Probably the best way to do this is to first complete the sorting of all 15 statements into the 5 Performance Categories. This should result in about 3 statements per category. *Then*, review the performance statements *within* each category, decide on the effectiveness level of each, and record the category letter (A-E) and the effectiveness rating (1 = ineffective, 2 = mid-range, 3 = effective) on each statement in the blanks provided. After you have included that information on each and every statement, place clips on each of the Performance Category's (i.e., A-E) statements and put all of the statements back in the envelope.

Thank you for helping us with this task.

Appendix D - AIM Scales and Definitions

Work Motivation

The tendency to strive for excellence in the completion of work-related tasks. Persons high on this construct seek challenging work activities and set high standards for themselves. They consistently work hard to meet these high standards.

Adjustment

The tendency to have a uniformly positive affect. Persons high on this construct maintain a positive outlook on life, are free of excessive fears and worries, and have a feeling of self-control. They maintain their positive affect and self-control even when faced with stressful circumstances.

Agreeableness

The tendency to interact with others in a pleasant manner. Persons high on this construct get along and work well with others. They show kindness, while avoiding arguments and negative emotional outbursts directed at others.

Dependability

The tendency to respect and obey rules, regulations, and authority figures. Persons high on this construct are more likely to stay out of trouble in the workplace and avoid getting into difficulties with law enforcement officials.

Leadership (Dominance)

The tendency to seek out and enjoy being in leadership positions. Persons high on this scale are confident of their abilities and gravitate towards leadership roles in groups. They feel comfortable directing the activities of other people and are looked to for direction when group decisions have to be made.

Physical Conditioning

The tendency to seek out and participate in physically demanding activities. Persons high on this construct routinely participate in vigorous sports or exercise, and enjoy hard physical work.

Appendix E - BIQ Scales and Definitions

Tolerance for Ambiguity

This scale measures a person's preference for work environments in which the problems (and potential solutions) are unstructured and ill-defined. Those with high tolerance for ambiguity are comfortable working in rapidly changing work environments. Individuals scoring low prefer highly structured and predictable work settings.

Hostility to Authority

The degree to which a person respects and is willing to follow legitimate authority figures. High scorers are expressively angered by authority figures and may actively disregard their instructions and policies. Low scorers accept directives from superiors and easily adapt to structured work environments.

Social Perceptiveness

This scale measures the degree to which a person can discern and recognize others emotions and likely behaviors in interpersonal situations. Persons high in social insight are good at understanding others' motives and are less likely to be "caught off guard" by unexpected interpersonal behaviors.

Interpersonal Skill

This scale measures the degree to which a person establishes smooth and effective interpersonal relationships with others. Interpersonally skilled individuals are good listeners, behave diplomatically, and get along well with others. Persons with low scores on this measure have difficulty working with others and may intentionally or unconsciously promote interpersonal conflict and cause hurt feelings.

Emergent Leadership

The scale measures the degree to which a person takes on leadership roles in groups and in his or her interactions with others. High scorers on this scale are looked to for direction and guidance when group decisions are made and readily take on leadership roles.

Self-Esteem

This scale measures the degree to which a person feels good about oneself as a person and has confidence in one's own abilities. Individuals with high self-esteem feel successful in past undertakings and expect this to continue in the future. Low scorers have feelings of personal inadequacy, lower self-efficacy, and lack confidence in their ability to be successful.

Appendix F – EQ-I Scales and Definitions

Emotional Self-Awareness (ES)

Emotional self-awareness is the ability to recognize one's feelings. It is not only the ability to be aware of one's feelings and emotions, but also to differentiate between them, to know what one is feeling and why, and to know what caused the feelings. Serious deficiencies in this area are found in alexithymic (inability to express feelings verbally) conditions.

Assertiveness (AS)

Assertiveness is the ability to express feelings, beliefs, and thoughts and defend one's rights in a nondestructive manner. Assertiveness is composed of three basic components: (1) the ability to express feelings (e.g., to accept and express anger, warmth, and sexual feelings), (2) the ability to express beliefs and thoughts openly (i.e., being able to voice opinions, disagree, and to take a definite stand, even if it is emotionally difficult to do and even if one has something to lose by doing so), and (3) the ability to stand up for personal rights (i.e., not allowing others to bother you or take advantage of you). Assertive people are not overcontrolled or shy—they are able to outwardly express their feelings (often directly), without being aggressive or abusive.

Self-Regard (SR)

Self-regard is the ability to respect and accept oneself as basically good. Respecting oneself is essentially liking the way one is. Self-acceptance is the ability to accept one's perceived positive and negative aspects as well as one's limitations and possibilities. This conceptual component of emotional intelligence is associated with general feelings of security, inner strength, self-assuredness, self-confidence, and feelings of self-adequacy. Feeling sure of oneself is dependent upon self-respect and self-esteem, which are based on a fairly well-developed sense of identity. A person with good self-regard feels fulfilled and satisfied with himself/herself. At the opposite end of the continuum are feelings of personal inadequacy and inferiority.

Self-Actualization (SA)

Self-actualization pertains to the ability to realize one's potential capacities. This component of emotional intelligence is manifested by becoming involved in pursuits that lead to a meaningful, rich, and full life. Striving to actualize one's potential involves developing enjoyable and meaningful activities and can mean a lifelong effort and an enthusiastic commitment to long-term goals. Self-actualization is an ongoing, dynamic process of striving toward maximum development of one's abilities, capacities, and talents. This factor is associated with persistently trying to do one's best and trying to improve oneself in general. Excitement about one's interests energizes and motivates him/her to continue these interests. Self-actualization is affiliated with feelings of self-satisfaction.

Independence (IN)

Independence is the ability to be self-directed and self-controlled in one's thinking and actions and to be free of emotional dependency. Independent people are self-reliant in planning and making important decisions. They may, however, seek and consider other people's opinions before making the right decision for themselves in the end; consulting others is not necessarily a sign of dependency. Independence is essentially the ability to function autonomously versus needing protection and support-independent people avoid clinging to others in order to satisfy their emotional needs. The ability to be independent rests on one's degree of self-confidence, inner strength, and desire to meet expectations and obligations, without becoming a slave to them.

Empathy (EM)

Empathy is the ability to be aware of, to understand, and to appreciate the feelings of others. It is "tuning in" (being sensitive) to what, how, and why people feel the way they do. Being empathetic means being able to "emotionally read" other people. Empathetic people care about others and show interest in and concern for others. Interpersonal relationship skill involves the ability to establish and maintain mutually satisfying relationships that are characterized by intimacy and by giving and receiving affection. Mutual satisfaction includes meaningful social interchanges that are potentially rewarding and enjoyable. Positive interpersonal relationship skill is characterized by the ability to give and receive warmth and affection and to convey intimacy to another human being. This component is not only associated with the desirability of cultivating friendly relations with others, but with the ability to feel at ease and comfortable in such relations and to possess positive expectations concerning social intercourse. This emotional skill generally requires sensitivity towards others, a desire to establish relations, and feeling satisfied with relationships.

Social Responsibility (RE)

Social responsibility is the ability to demonstrate oneself as a cooperative, contributing, and constructive member of one's social group. This ability involves acting in a responsible manner, even though one may not benefit personally. Socially responsible people have social consciousness and a basic concern for others, which is manifested by being able to take on community-oriented responsibilities. This component relates to the ability to do things for and with others, accepting others, acting in accordance with one's conscience, and upholding social rules. These people possess interpersonal sensitivity and are able to accept others and use their talents for the good of the collective, not just the self. People who are deficient in this ability may entertain antisocial attitudes, act abusively towards others, and take advantage of others.

Problem Solving (PS)

Problem solving aptitude is the ability to identify and define problems as well as to generate and implement potentially effective solutions. Problem solving is multiphasic in nature and includes the ability to go through a process of (1) sensing a problem and feeling confident and motivated to deal with it effectively, (2) defining and formulating the problem as clearly as possible (e.g., gathering relevant information), (3) generating as many solutions as possible (e.g., brainstorming), and (4) making a decision to implement one of the solutions (e.g., weighing the pros and cons of each possible solution and choosing the best course of action). Problem solving is associated with being conscientious, disciplined, methodical, and systematic in persevering and approaching problems. This skill is also linked to a desire to do one's best and to confront problems, rather than avoiding them.

Reality Testing (RT)

Reality testing is the ability to assess the correspondence between what is experienced and what objectively exists. Testing the degree of correspondence between what one experiences and what actually exists involves a search for objective evidence to confirm, justify, and support feelings, perceptions, and thoughts. Reality testing involves "tuning in" to the immediate situation, attempting to keep things in the correct perspective, and experiencing things as they really are, without excessively fantasizing or daydreaming about them. The emphasis is on pragmatism, objectivity, the adequacy of one's perception, and authenticating one's ideas and thoughts. An important aspect of this factor is the degree of perceptual clarity evident when trying to assess and cope with situations; it involves the ability to concentrate and focus when examining ways of coping with situations that arise. Reality testing is associated with a lack of withdrawal from the outside world, a tuning into the immediate situation, and lucidity and clarity in perception and thought processes. In simple terms, reality testing is the ability to accurately "size up" the immediate situation.

Flexibility (FL)

Flexibility is the ability to adjust one's emotions, thoughts, and behavior to changing situations and conditions. This component of emotional intelligence refers to one's overall ability to adapt to unfamiliar, unpredictable, and dynamic circumstances. Flexible people are agile, synergistic, and capable of reacting to change, without rigidity. These people are able to change their minds when evidence suggests that they are mistaken. They are generally open to and tolerant of different ideas, orientations, ways, and practices.

Stress Tolerance (ST)

Stress tolerance is the ability to withstand adverse events and stressful situations without "falling apart" by actively and positively coping with stress. It is the ability to weather difficult situations without getting too overwhelmed. This ability is based on (1) a capacity to choose courses of action for coping with stress (i.e., being resourceful and effective, being able to come up with suitable methods, and knowing what to do and how to do it), (2) an optimistic disposition toward new experiences and change in general and towards one's ability to successfully overcome the specific problem at hand (i.e., a belief in one's ability to face and handle these situations), and (3) a feeling that one can control or influence the stressful situation (i.e., keeping calm and maintaining control). This component of emotional intelligence is very similar to what has been referred to as "ego strength" and "positive coping." Stress tolerance includes having a repertoire of suitable responses to stressful situations. Stress tolerance is associated with the capacity to be relaxed and composed and to calmly face difficulties, without getting carried away by strong emotions. People who have good stress tolerance tend to face crises and problems, rather than surrendering to feelings of helplessness and hopelessness. Anxiety often results when this component of emotional intelligence is not functioning adequately, which has an ill effect on general performance because of poor concentration, difficulty in making decisions, and somatic problems like sleep disturbance.

Impulse Control (IC)

Impulse control is the ability to resist or delay an impulse, drive, or temptation to act. It entails a capacity for accepting one's aggressive impulses, being composed, and controlling aggression, hostility, and irresponsible behavior. Problems in impulse control are manifested by low frustration tolerance, impulsiveness, anger control problems, abusiveness, loss of self-control, and explosive and unpredictable behavior.

Happiness (HA)

Happiness is the ability to feel satisfied with one's life, to enjoy oneself and others, and to have fun. Happiness combines self-satisfaction, general contentment, and the ability to enjoy life. This component of emotional intelligence involves the ability to enjoy various aspects of one's life and life in general. Happy people often feel good and at ease in both work and leisure; they are able to "let their hair down," and enjoy the opportunities for having fun. Happiness is associated with a general feeling of cheerfulness and enthusiasm. Happiness is a by-product and/or barometric indicator of one's overall degree of emotional intelligence and emotional functioning. A person who demonstrates a low degree of this factor may possess symptoms typical of depression, such as a tendency to worry, uncertainty about the future, social withdrawal, lack of drive, depressive thoughts, feelings of guilt, dissatisfaction with one's life and, in extreme cases, suicidal thoughts and behavior.

Optimism (OP)

Optimism is the ability to look at the brighter side of life and to maintain a positive attitude, even in the face of adversity. Optimism assumes a measure of hope in one's approach to life. It is a positive approach to daily living. Optimism is the opposite of pessimism, which is a common symptom of depression.

Appendix G – COPE Scales and Definitions

Active Coping

Taking action, exerting efforts to remove or circumvent the stressor.

Planning

Thinking about how to confront the stressor, planning one's active coping efforts.

Seeking Instrumental Social Support

Seeking assistance, information, or advice about what to do.

Seeking Emotional Social Support

Getting sympathy or emotional support from someone.

Suppression of Competing Activities

Suppressing one's attention to other activities in which one might engage, in order to concentrate more completely on dealing with the stressor.

Positive Reinterpretation and Growth

Making the best of the situation by growing from it, or viewing it in a more favorable light.

Restraint Coping

Coping passively by holding back one's coping attempts until they can be of use.

Acceptance

Accepting the fact that the stressful event has occurred and is real.

Focus on Venting and Emotions

An increased awareness of one's emotional distress, and a concomitant tendency to ventilate or discharge those feelings.

Denial

An attempt to reject the reality of the stressful event.

Mental Disengagement

Psychological disengagement from the goal with which the stressor is interfering, through daydreaming, sleep, or self-distraction.

Behavioral Disengagement

Giving up, or withdrawing effort from, the attempt to attain the goal with which the stressor is interfering.

Humor

Making jokes about the stressor.